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Notes

Introduction

1. Success of smaller enterprises in growing into big businesses even after the high economic growth phase was not totally absent, but such instances were found mostly in the service industries and not in the manufacturing sector.
2. H. Rosovsky, *Capital Formation in Japan, 1868–1940* (New York, Free Press of Glencoe, 1961).
3. W.W. Rostow, *The Stages of Economic Growth, A Non-Communist Manifesto* (London, Cambridge University Press, 1960).
4. W.W. Lockwood, *The Economic Development of Japan, Growth and Structural Change 1868–1938* (Princeton, Princeton University Press, 1954), pp. 582–583.
5. *Ibid.*, p. 588.
6. For further discussion of this point, see Supplementary Comment 1.
7. I wonder whether some characteristics of the Japanese middle class are unique to Japanese historical experiences alone. One of the most important subjects to examine and compare is the historical-social characteristics and functions of the middle class of developed and developing countries in the process of their industrialization.
8. This government was established in 1868 and lasted until 1890 when the Meiji Constitution was promulgated.
9. Maeda Masana, *Kōgyō iken* (Proposal on the promotion of industry) (Tokyo, Ministry of Agriculture and Commerce, 1884).
10. Ueda Teijiro, “Shō kōgyō mondai kenkyū” (Study on problems of small-scale industries), *Kokumin Keizai Zasshi* 24, no. 5 (March 1918).
11. Noro Eitaro, *Nihon shihon shugi hattatsu shi* (History of the development of Japanese capitalism) (Tokyo, Iwanami Bunko, 1930).
12. Takahashi Kamekichi, *Gendai chūshō shōkōgyō ron* (Treatise on present-day small and medium-scale commercial and manufacturing industries) (Tokyo, Chikura Shobo, 1936); Arisawa Hiromi, *Nihon kōgyō tōsei ron* (Treatise on the control of Japanese industry) (Tokyo, Yuhikaku, 1937).
13. See, for example, Ito Taikichi, Ojio Taromaru, Kitahara Isamu, and Sato Yoshio, “Nihon chūshō kigyō mondai kenkyū shi” (History of studies on problems

- of Japan's small and medium-scale enterprises), in Keio Gijuku Daigaku Keizaigakkai, ed., *Nihon ni okeru keizaigaku no hyaku nen* (One hundred years of economics in Japan) (Tokyo, Keio Gijuku Daigaku Keizaigakkai, 1959); Nakamura Hideichiro, *Nihon no chūshō kigyō mondai* (Problems of Japanese small and medium-scale enterprises) (Tokyo, Godo Shuppan Sha, 1961); Kajinishi Mitsuhaya, ed., *Kōza chūshō kigyō* (Lectures on small and medium-scale enterprises), vol. 1 (Tokyo, Yuhikaku, 1960).
14. The establishment of the Small and Medium Enterprises Agency in 1948 led to a substantial improvement, both qualitatively and quantitatively, of factual surveys by government agencies.
 15. The 1921 edition is exceptional in that the "less than five" bracket was also covered in connection with the enforcement of the Factory Law.
 16. Nakamura Takafusa, *Senzen ki Nihon keizai seichō no bunseki* (Analysis of the Japanese economy in the prewar period) (Tokyo, Iwanami Shoten, 1971).
 17. Nakamura Takafusa, "Zairai sangyō no kibo to kōsei" (Scale and composition of conventional industries), in Umemura Mataji et al., eds., *Nihon keizai no hatten* (Development of the Japanese economy) (Tokyo, Nihon Keizai Shimbun Sha, 1976). The first national census in Japan was in 1920.
 18. Goto Yasushi, "Kindai Nihon no kaikyū kōsei" (Class composition of modern Japan), in Ohashi Takanori, ed., *Nihon no kaikyū kōsei* (Class composition of Japan) (Tokyo, Iwanami Shoten, 1971).
 19. Using the household as the unit of counting these strata, figures were taken from *Nōji tōkei* (Agricultural statistics) (Tokyo, Ministry of Agriculture and Commerce, 1888–1935) and *Zeimu tōkei* (Statistics for taxation) (Tokyo, Ministry of Finance, 1888–1935), partly because the results of the census alone were inadequate for classifying farmers by the form of management.
 20. Hara Akira, "Kaikyū kōsei no shin suikei" (New estimate of class composition), in Ando Yoshio, ed., *Ryō taisen kan no Nihon shihon shugi* (Japanese capitalism in the interwar period) (Tokyo, University of Tokyo Press, 1978).
 21. Yamanaka Tokutaro, ed., *Chūshō kigyō kenkyū 25 nen* (Twenty-five years of study of small and medium-scale enterprises) (Tokyo, Yuhikaku, 1953); Komiyama Takuji, *Nihon chūshō kōgyō kenkyū* (Study of Japan's SMIs) (Tokyo, Chuo Koron Sha, 1941), pp. 121, 122.

Chapter 1

1. Small and Medium Enterprises Agency, National Council for Regional Survey Agencies, *Yushutsu chūshō kōgyō no jittai chōsa* (Survey on the situation of small and medium-scale export industries) (Tokyo, Toyo Keizai Shinposha, 1957); Miyake Jun'ichiro, "Kawachi chihō ni okeru nōka keiei no hembō – Budō to kai botan" (Changes in farm management in the Kawachi region – Grapes and shell buttons), in supplementary volume 1 of *Nihon nōgyō hattatsu shi* (History of agricultural development in Japan), ed. Survey Committee for the History of Agricultural Development (Tokyo, Chuo Koron Sha, 1958), pp. 315–376.
2. Osaka Municipal Office, Department of Industry, *Osaka no botan kōgyō* (The button industry in Osaka), Osaka City Industry Series, vol. 5 (Osaka, 1930).
3. Kobayashi Tsunetaro, "Nihon kai botan gyō oyobi genryō" (Japan's shell-button industry and its raw materials) (manuscript in the possession of Osaka Municipal University).

4. Small and Medium Enterprises Agency, *Yushutsu chūshō kōgyō*, p. 878.
5. Osaka Municipal Office, *Osaka no botan kōgyō*, p. 4.
6. Continuing this process for one-half hour or even a full hour was not sufficient to "round off" the buttons according to Amano Yasaku, a shell-button manufacturer in Kagawa Prefecture before World War II; interviewed by author in 1976 and 1977.
7. Small and Medium Enterprises Agency, *Yushutsu chūshō kōgyō*, p. 828.
8. Kobayashi, "Nihon kai botan gyō," pp. 24, 28.
9. Italics mine. Ibid., pp. 28–30.
10. Takahashi Kamekichi, *Meiji Taishō sangyō hattatsu shi* (History of industrial development in the Meiji and Taisho periods) (Tokyo, Kaizosha, 1929), pp. 393–397.
11. Kobayashi, "Nihon kai botan gyō," pp. 32, 33.
12. Small and Medium Enterprises Agency, *Yushutsu chūshō kōgyō*, p. 879.
13. Editorial Committee for the History of Kashiwara City, *Kashiwara-shi shi* (History of Kashiwara City) (Kashiwara, 1972) (hereafter cited as *Kashiwara-shi shi*).
14. Osaka Municipal Office, *Nihon no botan kōgyō*, p. 5; Kobayashi, "Nihon kai botan gyō," p. 37.
15. Osaka Municipal Office, *Nihon no botan kōgyō*, pp. 3, 4.
16. Ishii Rokujiro, ed., *Nihon Kai Botan Dōgyō Kumiai enkaku shi* (History of the Japan Shell-Button Manufacturers and Merchants Association) (Osaka, Nihon Kai Botan Dogyo Kumiai, 1931), p. 139.
17. An oral account by Amano Yasaku (see note 6 above).
18. Ministry of Agriculture and Commerce, Agricultural Affairs Bureau, *Osaka-shi ni okeru kai botan torihiki jōkyō chōsa* (Survey on shell-button transactions in Osaka City) (Tokyo, 1922), pp. 31, 32.
19. Quoted from the 1906 prospectus of the Japan Shell-Button Manufacturers and Merchants Association.
20. Ishii, *Nihon Kai Botan Dōgyō*, pp. 56, 312.
21. Miyake, "Kawachi chihō ni okeru nōka keiei no hembō," p. 365.
22. Ishii, *Nihon Kai Botan Dōgyō*, pp. 11, 105, 321.
23. Osaka Municipal Office, *Osaka no botan kōgyō*, p. 249; Ministry of Agriculture and Commerce, Agricultural Affairs Bureau, *Kōbe-shi ni okeru kai botan torihiki jōkyō chōsa* (Survey on shell-button transactions in Kobe City) (Tokyo, 1922), pp. 11, 12.
24. Ishii, *Nihon Kai Botan Dōgyō*, p. 105.
25. An oral account by Nishikawa Takao, a former textile dealer in Osaka; interviewed by author 1971–1973.
26. An oral account by Abe Kichibei, a shell-button dealer in Kagawa Prefecture before World War II; interviewed by author in 1977.
27. An oral account by Yamamoto Takegoro, who at one time was engaged in shell-button production under Sakaguchi in Kashiwara; interviewed by the author in 1977, 1978.
28. An oral account by Amano Yasaku (see note 6 above).
29. Osaka Furitsu Shoko Keizai Kenkyusho, *Yushutsu-muke chūshō kōgyō sōsho* (Series on export-oriented SMIs), vol. 5 (shell buttons) (Osaka, 1956), p. 33.
30. Tokyo Municipal Office, Social Affairs Bureau, *Tōkyō-shi toiyasei shōkōgyō chōsa* (Survey on small industries under the putting-out system in Tokyo City) (Tokyo, 1937); Hochi Shimbun, Economic Department, *Chūshō sangyō no katsuyaku* (Activities of small industries) (Tokyo, Chikura Shobo, 1930).
31. An oral account by Mugurama Jitsue, a shell-button processor in Kagawa Prefecture before World War II; interviewed by author in 1977, 1978.

32. An oral account by Yamamoto Takegoro (see note 27 above).
33. An oral account by Amano Yasaku (see note 6 above).
34. Small and Medium Enterprises Agency, *Yushutsu chūshō kōgyō*, p. 893.
35. Ministry of Agriculture and Commerce, *Osaka-shi ni okeru kai botan*, p. 37.
36. Ministry of Agriculture and Commerce, *Kōbe-shi ni okeru kai botan torihiki jōkyō chōsa*, pp. 16, 17.
37. Osaka Municipal Office, *Osaka no botan kōgyō*, p. 27.
38. An oral account by Yamamoto Takegoro (see note 27 above).
39. Ishii, *Nihon Kai Botan Dōgyō*, pp. 141, 302.
40. Osaka Prefectural Office, Home Affairs Department, *Nōka fukugyō oyobi shō-kōgyō seihin torihiki soshiki ni kansuru chōsa* (Survey on mechanisms of transactions in products of sideline work by farm families and small industries) (Osaka, 1930), pp. 28, 30.
41. Osaka Prefectural Office, Home Affairs Department, *Fuka nōson ni okeru fukugyōteki kakōgyō no gaikyō* (Summary of processing as sideline work in farm villages in Osaka Prefecture) (Osaka, 1929).
42. Ibid.; Osaka Prefectural Council for Survey of Sideline Work, *Fukugyō chōsa hōkokusho* (Report on sideline work) (Osaka, 1930).
43. Ministry of Agriculture and Forestry, Agricultural Affairs Bureau, *Chihō fukugyō shuninsha kaigi yōroku* (Proceedings of conference of supervisory officials in charge of sideline work in local areas) (Tokyo, 1927); Kagawa Prefecture, *Fukugyō chōsa* (Survey on sideline work) (Takamatsu, 1930); Ehime Prefecture, Home Affairs Department, *Kakōteki fukugyō jōkyō* (Conditions of processing sideline work) (Matsuyama, 1921).
44. Iwate Prefectural Office, Economic Affairs Department, *Nōson kōgyō yōran* (Outline of rural industries) (Morioka, 1937).
45. *Kashiwara-shi shi*, p. 259.
46. Ishii, *Nihon Kai Botan Dōgyō*, pp. 104, 105.
47. During the Meiji and Taisho periods, there were many instances in which merchants from big cities went to remote localities with some productive potential, controlled local small producers through advance payments or bought up their output and made quick fortunes, and returned to where they had come from. In Okinawa, too, during these periods there were many *yamatonchu* (mainland people) who made similar fortunes – even in the Sakijima islands, where high-quality textiles were woven (an oral account by Kochinra Kiyo of Herara City, Okinawa Prefecture, whose husband was a textile dealer before World War II; interviewed by author in 1972).
48. An oral account by Yamamoto Takegoro (see note 27 above).
49. *Kashiwara-shi shi*, pp. 259, 261.
50. In Taisho Village almost every household seems to have been engaged in some sideline work, such as matchbox pasting (which gave work to 280 families), cotton growing, brush making, and cotton weaving. Osaka Prefectural Office, Home Affairs Department, *Nōka fukugyō seisekihin tenrankai hōkoku* (Report on exhibition of sideline products of farm families) (Osaka, 1915), p. 26.
51. Osaka Asahi Shinbun, Economic Department, ed., *Warera no ikita fukugyō o kataru* (Stories of sideline jobs we lived on) (Osaka, Osaka Asahi Shinbun, 1931), p. 96.
52. In Nara Prefecture, *kantosen* reportedly remained in use as late as the Taisho Period.
53. Osaka Prefectural Office, Home Affairs Department, *Fuka nōson ni okeru fukugyōteki kakōgyō*, pp. 115–117.

54. Osaka Prefectural Office, Home Affairs Department, *Nōka fukugyō oyobi shō-kōgyō*, p. 30.
55. *Kashiwara-shi shi*, p. 262.
56. An oral account by Yamamoto Takegoro (see note 27 above).
57. Oral accounts by Yamamoto Takegoro and Takahagi Minoru (Takahagi was engaged in shell-accessories manufacturing in Kashiwara, Osaka Prefecture, in the 1970s; interviewed by author in 1977).
58. Osaka Prefectural Council, *Fukugyō chōsa*, p. 44.
59. Osaka Prefectural Office, Home Affairs Department, *Nōka fukugyō oyobi shō-kōgyō*, p. 46.
60. Miyake, "Kawachi chihō ni okeru nōka keiei no hembō," p. 368.
61. Osaka Prefectural Office, Home Affairs Department, *Fuka nōson ni okeru fukugyōteki kakōgyō*, p. 272.
62. Osaka Municipal Office, *Osaka no botan kōgyō*, p. 92; Osaka Prefectural Office, Home Affairs Department, *Fuka nōson ni okeru fukugyōteki kakōgyō*, p. 272.
63. Osaka Prefectural Commercial and Industrial Economic Research Institute, *Yushutsu-muke chūshō kōgyō*, pp. 32, 38; Small and Medium Enterprises Agency, *Yushutsu chūshō kōgyō*, pp. 892, 896.

Chapter 2

1. Osaka Komamono Oroshi Dogyo Kumiai, ed., *Osaka Komamono Oroshi Dōgyō Kumiai enkaku shi* (History of the Osaka Association of Haberdashery Wholesalers) (Osaka, n.d.), p. 50.
2. Yokoyama Gennosuke, "Osaka kōjō meguri" (Visits to factories in Osaka), in Yokoyama, *Naichi zakkyō go no Nihon* (Tokyo, Iwanami Bunko, 1954), p. 175.
3. Ishibashi Zenzo, "Burashi seizōgyō" (Brush manufacturing industry), *Shakai Seisaku Jiho* (May 1934), p. 290.
4. Osaka Municipal Office, *Tokushu keitai kōjō no jitsurei* (Actual examples of uniquely formed factories) (Osaka, 1924).
5. Kagawa Toyohiko, "Shisen o koete" (Beyond life and death), *Kagawa Toyohiko zenshū* (Complete works of Kagawa Toyohiko), vol. 14 (Tokyo, Kirisuto Shim-bunsha, 1964), chap. 3.
6. Osaka Municipal Office, Industrial Department, *Osaka no burashi kōgyō* (The brush industry in Osaka) (Osaka, 1931).
7. Ministry of Finance, *Gaikoku bōeki gairan* (General report on foreign trade) (Tokyo, 1907), p. 291.
8. Ministry of Finance, *Gaikoku bōeki nempyō* (Yearbook of foreign trade) (Tokyo, 1921), p. 322.
9. Nihon Boeki Kenkyusho, *Yushutsu burashi kōgyō* (Brush export industry), vols. 1 and 2 (Osaka, Daido Shoin, 1942); Osaka Municipal Office, Industrial Department, *Osaka no burashi kōgyō*.
10. On this point, refer to Kagawa, "Shisen o koete," pp. 423–424, 446–448.
11. Any machine tool by itself was never very expensive – costing less than the monthly income of a skilled craftsman – but several times as much money as its price was needed when beginning a new business to buy accessories and to pay a deposit and advance rent to the power-lending plant.
12. *Ke ue* was the sideline work of farm families in the Taisho period. The number of

ke ue intermediaries, going between *seizoka* and part-time workers, at one time surpassed 400. Even toward the end of the period, their number was no less than 100, and 2,500 or even more were reportedly working under them part-time during slack periods for farmers (see note 21 below, p. 50.). The description above refers only to mechanized bristle planting, which became common from the mid-Taisho period.

13. Celluloid-handl brushes became popular after World War II and gradually outsold bone-handle brushes.
14. The financial bases of all *seizoka* without exception were fragile, and deferred payment was virtually the only credit creation allowed them.
15. V.I. Lenin, *Roshia ni okeru shihon shugi no hatten* (The development of capitalism in Russia), vol. 2 of *Renin zenshū* (The complete works of Lenin), ed. Soejima Tanenori (Tokyo, Otsuki Shoten, 1976), p. 168.
16. Osaka Komamono Oroshi Dogyo Kumiai, *Osaka Komamono Oroshi Dōgyō Kumiai*, p. 334.
17. There is on record only one case in which two producers tried to jointly operate a power-lending plant, but the attempt ended in failure. See Takeuchi Johzen, "Waga kuni ni okeru toiyasei kaitai no ichi dammen" (On the decline of the Toiyasei System in Japan), in the Economic Society of Fukushima University, *Shogaku Ronshu* 43, no. 4 (Fukushima, 1975), pp. 80–153.
18. Osaka Municipal Office, *Tokushu keitai kōjō*, p. 26.
19. Nihon Boeki Kenkyusho, *Yushutsu burashi kōgyō*, p. 348.
20. Osaka Municipal Office, *Tokushu keitai kōjō*, p. 10.
21. Osaka Municipal Office, *Burashi seizō-gyōsha no rōdō to seikatsu* (Labour and life of brush manufacturers) (Osaka, 1925), p. 68.
22. *Ibid.*, p. 64.
23. Ministry of Agriculture and Commerce, *Jūyō yushutsuhin ni kansuru chōsa* (Survey of important export goods) (Tokyo, 1924), pp. 9–12.
24. Ministry of Agriculture and Commerce, *Bōseki kōgyō narabini zatsu kōgyō ni oyoboshitaru jikyoku no eikyō* (Influences of the current state of affairs on the spinning and miscellaneous industries) (Tokyo, 1919), p. 27.
25. It was extremely rare for *seizoka* to become exporters of their products.
26. Yokoyama, "Osaka kōjō meguri," p. 103.
27. Ministry of Finance, *Hompō gaikoku bōeki jōkyō* (Situation of Japan's foreign trade) (Tokyo, 1927), p. 127.
28. Osaka Komamono Oroshi Dogyo Kumiai, ed., *Yakushin komamono gyōkai* (The growing haberdashery industry) (Osaka, n.d.).
29. Yui Tsunehiko, *Chūshō kigyō seisaku no shiteki kenkyū* (Historical study on small industry policy) (Tokyo, Toyo Keizai Shinposha, 1964); Ministry of International Trade and Industry, *Shōkō seisaku shi* (History of commercial and industrial policies), vol. 12 (Tokyo, 1964).
30. Ministry of Agriculture and Commerce, *Meiji sanjūhachi nen yunyūhin mozō zakka himpyō kai* (1905 competitive exhibition of sundries imitating imported goods) (Tokyo, 1905).
31. Nihon Boeki Kenkyusho, *Yushutsu burashi kōgyō*, p. 148.
32. The advocates of appropriate scales since A. Marshall have been trying to base their theoretical hypotheses merely on such secondary aspects.
33. Ministry of Commerce and Industry, *Seruido kōgyō no genjō* (Current situation of the celluloid industry) (Tokyo, 1931); Dai Nippon Celluloid Co., Ltd., ed., *Dai Nippon Seruido Kabushiki Kaisha shi* (History of Dai Nippon Celluloid Co., Ltd.) (Osaka, 1932).

34. Iwai Shoten was later reorganized into Nissho-Iwai, which is one of Japan's leading general trading companies.
35. Mitsui and Mitsubishi are major general trading companies in Japan.
36. Ministry of Finance, *Gaikoku bōeki nempyō* (Tokyo, 1919), p. 352.
37. Iwai Sangyo Co., Ltd., ed., *Iwai 100-nen shi* (A 100-year history of Iwai) (Tokyo, 1964), p. 263.
38. Kajinishi Mitsuhaya et al., eds., *Kōza chūshō kigyō* (Lectures on small enterprises) (Tokyo, Yuhikaku, 1960) 1:154.
39. Japan Chamber of Commerce and Industry, *Sangyō gōrika* (Industrial rationalization), vol. 9 (Tokyo, 1933), pp. 143–153.

Chapter 3

1. Meriyasu Nihon Sha, ed., *Nihon meriyasu kōgyō shi* (History of the Japanese knit-fabric industry) (Tokyo, 1934), p. 360.
2. Fujimoto Masayoshi, *Nihon meriyasu shi* (History of knit-fabrics in Japan) (Tokyo, Tokyo Knit-Fabric Trade Association, 1910) 1:43.
3. He later became well known for his purchase of government-run plants for cement in Fukagawa and glass in Shinagawa.
4. Fujimoto, *Nihon meriyasu shi* 1:49.
5. Osaka Municipal Office, ed., *Meiji Taishō Osaka-shi shi* (History of Osaka City in the Meiji and Taisho periods) (Tokyo, Nihon Hyoron Sha, 1935) 1:440.
6. Inobe Shigeo, Sato Yoshitaka, eds., *Nishimura Katsuzō no shōgai* (The life of Nishimura Katsuzo) (Tokyo, Nishimura O Denki Hensan Kai, 1968), pp. 104, 105.
7. Fujimoto, *Nihon meriyasu shi* 1:84.
8. "Tebukuro sangyō hattatsu shi" (History of the development of the glove industry) (manuscript in the possession of the Shiratori town office, Kagawa Prefecture, n.d.), p. 47.
9. Tonsho Torahiko, *Meriyasu o kataru* (Talking about knit fabrics) (Tokyo, Sugaya Meriyasu Ten, 1936), p. 64; Takahashi Kamekichi, *Nihon kindai keizai hattatsu shi* (History of modern economic development in Japan) (Tokyo, Toyo Keizai Shinposha, 1973) 3:230–232.
10. Takimoto Seiichi, Mukai Shikamatsu, eds., *Nihon sangyō shiryō taikei* (Outline of Japanese industry) (Tokyo, Chugai Shogyo Shimposha, 1934) 9:756.
11. Meiji Bunken Shiryō Kankokai, ed., *Meiji zenki sangyō hattatsu shi shiryō* (Reference materials on the history of industrial development in the early Meiji period), vols. 7, 8 (Tokyo, 1962).
12. Ibid., vol. 7, pp. 10–12, vol. 8, pp. 75–80.
13. Meriyasu Nihon Sha, *Nihon meriyasu kōgyō shi*, p. 367.
14. Fujimoto, *Nihon meriyasu shi* 1:116, 117.
15. Osaka Municipal Office, *Meiji Taishō Osaka-shi shi*, p. 125.
16. Iwasaki Kin'ichi, *Chūbaku shi* (History of the Central Knit-Fabric Control Association) (Tokyo, Nihon Meriyasu Tonsei Co., 1944), pp. 7, 8.
17. The figures represent the totals of pertinent items in the Ministry of Finance, *Dai Nippon gaikoku bōeki nempyō* (Annual tables of Japan's foreign trade) (Tokyo, 1894). Although they are considerably smaller than the corresponding statistics for exports and imports of the trade association, the two sources are consistent in indicating that the relative importance of exports and imports was reversed between 1892 and 1893.

18. Takahashi Kamekichi, *Meiji Taishō sangyō hattatsu shi* (History of industrial development in the Meiji and Taisho periods) (Tokyo, Kaizo Sha, 1929), pp. 393–397.
19. Calculated from the Ministry of Finance, *Dai Nippon gaikoku bōeki nempyō*, and the Ministry of Agriculture and Commerce, *Kōjō tōkei hyō* (Statistical tables on factories).
20. Nagoya Municipal Office, *Meriyasu ni kansuru chōsa* (Survey on knit fabrics), Series of Industrial Surveys, vol. 5 (Nagoya, 1925), pp. 70, 71.
21. Horie Yasuzo, *Osaka ni okeru ishin go no kōgyō no hattatsu* (Development of industry in Osaka after the Meiji Restoration) (Tokyo, Nihon Hyoron Sha, 1935), p. 439.
22. Tokyo Chamber of Commerce and Industry, *Wagakuni meriyasu kōgyō no hatten-sei* (Growth potentials of the Japanese knit-fabric industry), Series of Reference Materials on Commerce and Industry, no. 13 (Tokyo, 1935), p. 19.
23. Meriyasu Nihon Sha, *Nihon meriyasu kōgyō shi*, pp. 560, 573.
24. Osaka Shohin Chinretsusho, ed., *Osaka-fu kōgyō gairan* (Outline of industry in Osaka Prefecture) (Osaka, 1923), p. 364.
25. Araki Chikuyo, ed., *Mikawajima-chō shi* (History of Mikawajima-cho) (Tokyo, Shitaya Shimbun, 1922), p. 139.
26. This is a famous quip by Inoue Kaoru, an influential Meiji statesman well known for his vitality as well as his frequent slips of the tongue.
27. Interesting findings on home workers are reported in the following references: Osaka Municipal Office, Social Affairs Department, Research Section, *Tanimachi hōmen ni okeru kyojūsha no seikatsu jōkyō* (Living conditions of residents of the Tanimachi area), Report by the Social Affairs Department, no. 95 (Osaka, 1929); idem, *Tsuruhashi Nakamoto hōmen ni okeru kyojūsha no seikatsu jōkyō* (Living conditions of residents of the Tsuruhashi Nakamoto area), Report by the Social Affairs Department, no. 84 (Osaka, 1928); *Jōyō rōdōsha no seikatsu* (The life of permanently employed workers) (Osaka, 1922); idem, *Hon-shi ni okeru naishoku chōsa* (Survey on sideline work in Osaka City), Report by the Social Affairs Department, no. 247 (Osaka, 1940); Osaka Municipal Office, *Osaka-shi naishoku chōsa* (Survey on sideline work in Osaka City) (Osaka, 1932); Tokyo Chamber of Commerce and Industry, *Tokyo-shi oyobi sono fukin ni okeru kanai kōgyō no jōtai* (Conditions of domestic industries in Tokyo City and its vicinity), Survey on Commerce and Industry, no. 12 (Tokyo, 1929); Tokyo Municipal Office, Social Affairs Bureau, *Tōkyō-shi shō kōgyō chōsa* (Survey on small industries in Tokyo City) (Tokyo, 1935).
28. Osaka Municipal Office, Social Affairs Department, *Hon-shi ni okeru naishoku chōsa*.
29. Osaka Municipal Office, *Osaka-shi naishoku chōsa*, pp. 3, 4.
30. Hochi Shimbun, Economic Department, *Chūshō sangyō no katsuro* (The way of survival for SMIs) (Tokyo, Chikura Shobo, 1930).
31. Ibid., p. 128.
32. One can safely assume the “high-quality knit fabrics” were purchased by the upper class and the military in those days.
33. Meriyasu Nihon Sha, *Nihon meriyasu kōgyō shi*, p. 556.
34. Hochi Shimbun, *Chūshō sangyō no katsuro*, p. 130.
35. After World War II, the major portion of total knit-fabric production was for fashion clothing and sportswear.
36. Fujita Keizo, *Nihon sangyō kōzō chūshō kōgyō* (Japan’s industrial structure and small industries) (Tokyo, Iwanami Shoten, 1965); Osaka Municipal Office, Indus-

- trial Affairs Department, Research Section, *Osaka no meriyasu kōgyō* (The knit-fabric industry in Osaka) (Osaka, 1931).
37. Osaka Municipal Office, *Naichi meriyasu kōgyō no genjō* (The current situation of the knit-fabric industry in Japan), Research Findings on Smaller Commercial and Industrial Enterprises by Osaka City, part 12 (Osaka, 1940), pp. 6, 7.
 38. Osaka Municipal Office, Social Affairs Department, *Hon-shi ni okeru naishoku chōsa*.
 39. Osaka Prefectural Office, Industrial Affairs Bureau, *Osaka-fu kōgyō gaiyō* (Outline of industry in Osaka Prefecture) (Osaka, 1923).
 40. Osaka Municipal Office, *Osaka-shi kōgyō chōsa sho* (Survey report on industry in Osaka City) (Osaka, 1933).
 41. It has to be pointed out, however, that influential capitalists had their factories in the less-urbanized areas around Osaka City. Knit-fabric production organized by the *seizo don'ya* seems to have had its unique basis in the densely populated residential areas of the urban lower class.
 42. Takeuchi Johzen, "Toshi chūshō burujowajī o meguru sho dōkō" (Trends involving the urban small bourgeoisie), in Ando Yoshio, ed., *Ryō taizen kan no Nihon shihon shugi* (Japanese capitalism between the two world wars) (Tokyo, University of Tokyo Press, 1979).
 43. Horie Hidekazu, "Yūkitteki chūshō kōgyō no seisan kōzō" (Productive structures of organic small industries), *Shakai Seisaku Jiho*, no. 228 (September 1939), p. 112.
 44. Ministry of Agriculture and Commerce, Commercial Affairs Bureau, *Kouri kōgyō no shikin yūzū no genkyō ni kansuru chōsa* (Survey on the current situation of accommodation of funds to retailing industries) (Tokyo, 1912).
 45. Tokyo Municipal Office, ed., *Tōkyō-shi ni okeru chūshō shōkō gyōsha no jissai* (The realities of small merchants and manufacturers in Tokyo City), vol. 2 (Tokyo, Koseikai Shuppanbu, 1931).
 46. Isozaki Shunji, "Meriyasu seizō gyō" (Knit-fabric manufacturing industry), *Shakai Seisaku Jiho* (May 1934), pp. 214–216.
 47. Tonsho, *Meriyasu o kataru*, p. 119.
 48. Ariga Rokuro, *Shōhin no henka to torihiki no henshen shi* (History of changes in commodities and transactions) (Tokyo, Kyodo Kumiai Tokyo Ton'ya Domei, 1968), p. 100.
 49. Takeuchi Johzen, "Gyōkai annai ni yoru keiei shi bunseki no kokoromi" (Analytical approach to the history of business administration through the *Guide to Industries*), *Hiroshima Daigaku Keizai Ronso* 2, nos. 3 and 4 (1979).
 50. Osaka Municipal Office, Social Affairs Department, *Hon-shi ni okeru naishoku chōsa*, pp. 11, 97.
 51. Tokyo Chamber of Commerce and Industry, *Meriyasu kōgyō no hattensei*, p. 9.
 52. Osaka Furitsu Shoko Keizai Kenkyusho, *Osaka o chūshin to suru sen'i shōgyō no chōsa* (Survey on textile commerce around Osaka) (Osaka, 1951), pp. 107, 108.

Chapter 4

1. Kanagawa Prefecture, *Kanagawa-ken no 100 nen* (100 years of Kanagawa Prefecture) (Yokohama, 1969); Osaka Prefectural Police Headquarters, *Osaka-fu keisatsu shi* (History of police in Osaka Prefecture), vol. 1 (Osaka, 1970); Nihon Kogakkai, ed., *Meiji kōgyō shi* (History of industry in the Meiji Period), vol. 10

- (Tokyo, 1930); Nishida Hirotaro, ed., *Dai Nihon no sangyō* (Industry of Greater Japan) (Tokyo, Kagaku Kōgei Sha, 1928); Osaka Municipal Office, Industrial Affairs Department, Research Section, ed., *Osaka no jitensha kōgyō* (The bicycle industry in Osaka) (Osaka, 1933).
2. Kobayashi Masaaki, "Nihon kikai kōgyō Karakuri Gizaemon" (Karakuri Gizaemon and the Japanese machine industries), in Economics Society of Kanto Gakuin University, ed., *Keizaikei*, no. 82 (1970), pp. 59–70.
 3. Jitensha Sangyo Shinkokai, ed., *Jitensha no isseiki – Nihon jitensha sangyō shi* (Centenary of the bicycle – A history of Japan's bicycle industry) (Tokyo, 1973), p. 6.
 4. Nihon Rinkai Shimbun Sha, *Chihō rinkai no ayumi* (Development of local bicycle industries) (Tokyo, 1959), pp. 40, 41, 105 (hereafter cited as *Chihō rinkai no ayumi*).
 5. Tanaka Omi O Kensho Kai, *Tanaka Omi daijō* (Biography of Tanaka Omi) (Tokyo, 1931), p. 7.
 6. "Yokohama Seiko Meiyō Kagami" (Models of success and glory in Yokohama) (manuscript), p. 38.
 7. Okato Buhei, *Jitensha banzai* (Bicycles forever) (Nagoya, Chubu Keizai Shimbunsha, 1974), p. 19.
 8. *Chihō rinkai no ayumi*, p. 40.
 9. Nichibei Shoten, ed., *Rinkai tsuiku zadankai* (Panel discussion retrospective on the bicycle industry) (Tokyo, 1934), p. 25.
 10. Tokyo Jitensha Seizo Kyōdo Kumiai, "Nihon jitensha sangyō kaiko zadankai sokkiroku" (Transcript of a panel discussion retrospective on the bicycle industry of Japan) (Tokyo, 1960, manuscript), p. 6.
 11. An oral account by Otsu Ikujiro, an old bicycle dealer in Sakai City; interviewed by author in 1978 and 1979.
 12. Miyata Seisakusho 70-nen Shi Hensanshitsu, *Miyata Seisakusho 70-nen shi* (70-year history of Miyata Seisakusho) (Tokyo, Miyata Seisakusho, Ltd., 1959), p. 9 (hereafter cited as *Miyata Seisakusho 70-nen shi*).
 13. *Chihō rinkai no ayumi*, p. 40.
 14. Jitensha Sangyo Shinkokai, *Jitensha no isseiki*, p. 20.
 15. Dai Go-kai Naikoku Kangyo Hakurankai, *Dai Go-kai Naikoku Kangyō Haku-rankai shinsa hōhokusho* (Jury's report of the Fifth Domestic Industrial Exposition) (Tokyo, 1907) 4:216.
 16. Osaka-fu Jitensha Keijidosha Shogyo Kyōdo Kumiai, *Kouri ten no kaiko roku* (Memoirs on retail stores) (Osaka, 1979), pp. 50, 51 (hereafter cited as *Kouri ten no kaiko roku*).
 17. Fukaya Ryoji, *Chūkyō rinkai 50 nen no kaiko* (Looking back on 50 years of the bicycle industry in the Chukyo Region) (Nagoya, Aichiken Riyaka Seizo Oroshi Kyōdo Kumiai, 1951), p. 9.
 18. *Miyata Seisakusho 70-nen shi*, pp. 3–5.
 19. *Ibid.*, pp. 14–16.
 20. Sakai Municipal Office, *Sakai-shi shi* (A history of Sakai City), appendix 2 (Sakai, 1971).
 21. Oki Kitaro Denki Hensangakari, ed., *Oki Kiurō* (Tokyo, 1932); Hanabusa Kingo, ed., *Ikegai Tekkōsho 50-nen shi* (50-year history of Ikegai Ironworks) (Tokyo, 1941).
 22. *Chihō rinkai no ayumi*, p. 2. At that time, the army attached great military importance to bicycles and had already prepared an "army bicycle instruction course."

23. This list suggests a number of other interesting facts. For instance, the import of the latest machines continued even after World War I, and military arsenals were not always steady customers of domestic manufacturers of machine tools because military purchases from them were concentrated in wartime.
24. An oral account by Tajima Eikichi, the founder of a bicycle-parts factory in Sakai City; interviewed by the author in 1978.
25. *Chihō rinkai no ayumi* pp. 28–35, 45; Nihon Jitensha Shimbun Sha, *Nihon jiten-sha kōshin meikan* (Who's who in the Japanese bicycle industry) (Tokyo, 1954), p. 102.
26. *Chihō rinkai no ayumi*, p. 43.
27. An oral account by Otsu Ikujiro (see note 11 above).
28. Ishikawa-ken Rinkaishi Hensan Iinkai, *Ishikawa-ken rinkai shi* (History of the bicycle industry in Ishikawa Prefecture) (Kanazawa, 1977), pp. 15, 16 (hereafter cited as *Ishikawa-ken rinkai shi*).
29. Maruishi Shokai, Ltd., *Sōgyō sanjussūnen kinen shi* (30th anniversary commemorative album) (Tokyo, 1937), p. 63.
30. Ibid.
31. Fukaya Ryoji, *Chūkyō rinkai 50 nen*, p. 98.
32. Ibid., p. 6.
33. Nichibei Shoten, ed., *Nichibei Shōten oyobi Dai Nihon Jitensha no genjō* (Current situation of Nichibei Shoten and Dai Nihon Bicycle Company) (Tokyo, 1934), p. 62.
34. Ibid., p. 63.
35. Nichibei Shoten, ed., *Hadaka ikkan yori hikari no mura e* (From pennilessness to the Village of Light) (Tokyo, 1934), p. 76.
36. *Chihō rinkai no ayumi*, pp. 43, 64; Nichibei Shoten, *Nichibei Shōten oyobi Dai Nihon Jitensha*, p. 31.
37. Nichibei Shoten, *Nichibei Shōten oyobi Dai Nihon Jitensha*, pp. 26–29.
38. Ibid., p. 66.
39. Ibid., pp. 64, 66.
40. Ministry of Agriculture and Commerce, Industrial Affairs Bureau, Industrial Affairs Division, *Kōjō tsūran* (Review of factories) (Tokyo, 1911).
41. Osaka Mekikikogyo Kyodo Kumiai, *Kumiai 50-nen shi* (50-year history of the Association of Gilders) (Osaka, 1967), p. 13.
42. An oral account by Ishibashi Sukeji of Kyokuto Seisakusho, a leading manufacturer of bicycle parts. Ishibashi interviewed by author in July 1978.
43. *Rin'yu Zasshi* (Cyclists' magazine), no. 125 (November 1912), p. 21.
44. *Kouri ten no kaiko roku*, pp. 96, 97.
45. Osaka Mekikikogyo Kyodo Kumiai, *Kumiai 50-nen shi*, p. 16. For another reasonable comprehensive report on such factories, see Osaka Municipal Office, *Tokushu keitai kōjō no jitsurei* (Examples of uniquely formed factories) (Osaka, 1924).
46. Nichibei Shoten, *Rinkai tsuioke zadankai*, pp. 51–60.
47. Nihon Rinkai Shimbun Sha, *Jitensha sangyō no ayumi* (Development of the bicycle industry), vol. 1 (Tokyo, 1957), p. 49; Sakai Ringyo Kyokai, *Sakai no jitensha* (Sakai bicycles) (Tokyo, 1939), p. 37.
48. Sakai Ringyo Kyokai, *Sakai no jitensha*, pp. 15–17.
49. Takeuchi Johzen, "The Formation of the Japanese Bicycle Industry: A Preliminary Analysis of the Infrastructure of the Japanese Machine Industry" (Tokyo, United Nations University Press, 1981, Working paper), pp. 42–45.
50. "Jitensha o tsukuru mura" (Bicycle-producing villages), in Osaka Furitsu Shoko

- Keizai Kenkyusho, ed., *Osaka keizai no ugoki* (Developments in the Osaka economy), no. 25 (Osaka, 1954), p. 33.
51. Jitensha Sangyo Shinkokai, *Jitensha no isseiki*, p. 217.
 52. Yamaguchi Sasuke, ed., *Maruishi no ashiato* (Footsteps of Maruishi) (Tokyo, Maruishi Shokai, Ltd., 1946), pp. 8–13.
 53. Osaka Municipal Office, *Osaka no jitensha kōgyō*, p. 11.
 54. *Miyata Seisakusho 70-nen shi*, p. 36.
 55. Okato, *Jitensha banzai*, p. 31.
 56. *Ibid.*, pp. 31–35, 108.
 57. *Ibid.*, p. 38.
 58. *Ibid.*, pp. 41, 43.
 59. Fukaya, *Chūkyō rinkai 50 nen*.
 60. Miyata Seisakusho's idea of an "interchangeable system" became part of its management philosophy.
 61. Kanto Byonejikugi Kogyo Kyodo Kumiai, ed., *Sōritsu sanjussūnen kinen shikiten shi* (30th anniversary celebration albums) (Tokyo, 1968).
 62. Tokyo Jitensha Seizo Kyodo Kumiai, "Nihon jitensha sangyō kaiko zadankai" (1960, manuscript), pp. 15, 18.
 63. An oral account by Tajima Eikichi (see note 24 above).
 64. Miyata Toranosuke, a younger brother of Eisuke, Jr., the second-generation owner of Miyata Seisakusho, was a graduate of the secondary engineering school attached to the Tokyo Institute of Technology. The trend of factory owners – including even those who had worked their way up from humble workers – giving their sons a higher education was already becoming evident in this period.
 65. Tokyo Jitensha Seizo Kyodo Kumiai, "Nihon jitensha sangyō kaiko zadankai"; Nihon Rinkai Shimbun Sha, *Jitensha sangyō no ayumi*; Umezawa Seisakusho, *Umezawa 60 nen no ayumi* (60-year development of Umezawa) (Tokyo, 1974).
 66. Umezawa Seisakusho, *Umezawa 60 nen no ayumi*, p. 35.
 67. *Miyata Seisakusho 70-nen shi*, p. 57.
 68. *Kouri ten no kaiko roku*, p. 83; Nakano Suguru, *Shōka dōzokudan no kenkyū* (Studies on merchant family groups) (Tokyo, Mirai Sha, 1964), p. 11.
 69. *Kouri ten no kaiko roku*, p. 98.
 70. Maruishi Shokai, Ltd., *Sōgyō sanjussūnen kinen shi*, p. 139.
 71. Naikaku Tokei Kyoku, *Nippon teikoku tōkei nenkan* (Imperial statistical year-book) (Tokyo), vol. 36 (1917), p. 253, vol. 37 (1918), p. 255.
 72. *Kouri ten no kaiko roku*, p. 74.
 73. *Ishikawa-ken rinkai shi*, p. 235.
 74. Hyogo Prefectural Office, Economic Affairs Department, Commerce and Industry Section, *Shuyō kōgyō gaikyō chōsa* (Survey on the general situation of major industries) (Kobe, 1937), p. 28.
 75. For the years before 1929, statistics on domestic production are available only concerning the number of completed bicycles and their total value.
 76. Akamatsu Kaname, Koide Yasuji, "Jitensha kōgyō ni okeru ten-shitsugyō mondai" (Problems of job transfers and unemployment in the bicycle industry), in Yamanaka Tokutaro, ed., *Ten-shitsugyō mondai* (Problems of job transfers and unemployment) (Tokyo, Yuhikaku, 1941), p. 85.
 77. Takeuchi, "The Formation of the Japanese Bicycle Industry."
 78. Nihon Rinkai Shimbun Sha, *Jitensha sangyō no ayumi*, p. 50.
 79. Maruishi, less a manufacturer than a dealer, had taken over the management of a bicycle factory set up in Kobe by a British company.

80. Tokyo Jitensha Seizo Kyodo Kumiai, "Nihon Jitensha sangyō kaiko zadankai," p. 40.
81. Shimano Kogyo Co., Ltd., *Shimano Shōzaburō den* (A biography of Shimano Shozaburo) (Osaka, 1959), pp. 119, 120, 126.
82. Tokyo Municipal Office, *Jūyō kōgyō chōsa* (Survey on important manufacturing industries), vol. 1 (Tokyo, 1932).
83. Tokyo Jitensha Seizo Oroschi Kyodo Kumiai, *30-nen shi* (30-year history) (Tokyo, 1979), pp. 49, 50.
84. Bicycle exports plummeted after 1937, reflecting intensified international tension, and were not resumed until after 1950.
85. Skilled craftsmen and experienced merchants were able to tell the source of supply by merely looking at the polished surface of steel.
86. Osaka Municipal Office, *Osaka no jitensha kōgyō*, pp. 26–33.
87. More sophisticated bicycles required a greater variety of pipe diameters and thicknesses.
88. Tokyo Chamber of Commerce and Industry, *Jikyoku to chūshō kōgyō* (Current political situation and small industries) (Tokyo, 1937), p. 6.
89. Dr. Ohashi's survey can be considered to have covered all pertinent enterprises.
90. Okumura Tadao, "Waga kuni saikin no jitensha kōgyō" (The bicycle industry in present-day Japan), *Shakai Seisaku Jiho*, no. 1 (July 1939), pp. 153–177, no. 2 (August 1939), pp. 158–174.
91. Newer versions of this model, though with major improvements, are still being produced today.
92. *Miyata Seisakusho 70-nen shi*, pp. 82–84.
93. *Ibid.*, pp. 58, 59, 66, 67.
94. Aida Toshio, "Issen kyūhyaku nijū nen-dai Nihon shihon shugi ni okeru chūshō reesai kōgyō no tenkai katei" (Development process of mini-, small-, and medium-scale industries in the Japanese capitalist economy of the 1920s), *Shakai Rodo*, vol. 26, no. 1 (1979), p. 96; Nihon Kagakushi Gakkai, *Nihon kagaku gijutsu shi taikēi* (Outline of the history of science and technology in Japan) (Tokyo, Daiichi Hoki Shuppan, 1966) 18:164–170.
95. Tokyo Jitensha Oroschi Kumiai, "Tokyo Oroschi Kumiai no rekishi" (History of the Tokyo Association of Wholesalers) (n.d.; manuscript in the possession of Jitensha Sangyo Shinkokai, Tokyo), p. 16.
96. Headquartered in Birmingham, this company was originally a rifle manufacturer and later was the world's largest manufacturer of coaster brakes for bicycles.
97. Nihon Rinkai Shimbun Sha, *Jitensha sangyō no ayumi*, p. 51.
98. *Ibid.*
99. Okato, *Jitensha banzai*, p. 62; Tokyo Jitensha Oroschi Kumiai, "Tokyo Oroschi Kumiai no rekishi," p. 50.
100. Atarashi Yoshiyasu, a parts manufacturer in Osaka before World War II; interviewed by author in 1976 and 1977. As tiny producers concurrently processed components for other industries as well, their precise classification is difficult.
101. In the 1950s, Isobe Koichi counted 15 main components, which he further classified into 300 different parts, or in greater detail, into as many as 1,800. See Isobe Koichi, "Waga kuni jitensha sangyō no kōzō bunseki (1)" (Structural analysis of the Japanese bicycle industry, 1), *Meiji Gakuin Ronso*, no. 50, part 2 (1958), p. 15.
102. *Ibid.*, "Waga kuni jitensha sangyō no kōzō bunseki (2)," *Meiji Gakuin Ronso*, no. 52 (1959), pp. 39–59.
103. *Ibid.*, "Waga kuni jitensha sangyō no kōzō bunseki (3)," *Meiji Gakuin Ronso*,

- no. 56, part 1 (1960), pp. 53–73.
104. Tokyo Chamber of Commerce and Industry, *Saikin ni okeru jitensha kōgyō no hatten* (Recent developments of the bicycle industry) (Tokyo, 1935).
 105. Such examples are described in detail in Nihon Rinkai Shimbun Sha, *Jitensha sangyō no ayumi*.
 106. Hochi Shimbun, Economic Department, *Chūshō sangyō no katsuro* (The way of survival for SMIs) (Tokyo, Chikura Shobo, 1930).
 107. "Jitensha o tsukuru mura."
 108. Nakano Suguru, *Shitauke kōgyō no dōzoku to oyakata-kokata* (Family and master-apprentice relationships in the subcontract industries) (Tokyo, Ochano-mizu Shobo, 1978).
 109. On this point, refer to Umezawa, *Umezawa 60 nen no ayumi*; *Ishikawa-ken rinkai shi*; Sakai Ringyo Kyokai, *Sakai no jitensha*; Shimano Kogyo Co., Ltd., *Shimano Shōzaburō den*.
 110. Organization of the apprentice system is discussed in the following works: Osaka Mekkikogyo Kyodo Kumiai, *Kumiai 50-nen shi*; Okumura, "Waga kuni saikin no jitensha kōgyō"; Koyasu Hiroshi, "Jitensha seizō gyō" (Bicycle manufacturing), *Shakai Seisaku Jiho*, no. 114 (1934); and Tokyo Prefectural Office, Education Department, Occupational Section, *Shokugyō chōsa* (Occupational survey), vol. 8 (Tokyo, 1938).
 111. Takeuchi Johzen, "Jitensha gyōkai sōgyōsha chōsa" (Survey of founders of the Japanese bicycle industry), in *Keizai Ronso* (Hiroshima University, Faculty of Economics), vol. 4, no. 2 (1980), pp. 99–142.
 112. Tokyo Jitensha Seizo Kyodo Kumiai, "Nihon jitensha sangyō kaiko zadankai."
 113. Between these two extremes, there were many intermediaries who constituted the largest segment among the suppliers of bicycle parts kits.
 114. Okumura, "Waga kuni saikin no jitensha kōgyō," no. 2, pp. 173–174.
 115. Shimano Kogyo Co., Ltd., *Shimano Shōzaburō den*. See also Takeuchi Johzen, "The development of the bicycle industry," in *Entrepreneurship*, no. 8 (Kyoto, PHP Institute, 1984), pp. 8–18, and Idem, "Kakuritsuki no wagakuni jitensha sangyō" (The Japanese bicycle industry after the Russo-Japanese War), in *Nem-po Keizaigaku* (Hiroshima University, Faculty of Economics, 1984), pp. 39–70.
 116. On this point, see the following: *Kouri ten no kaiko roku*; Koyasu, "Jitensha seizō gyō"; Osaka Shoko Keizai Kenkyukai, Osaka Furitsu Shoko Keizai Kenkyusho, *Osaka ni okeru jitensha sangyō no jittai – Ryūtsū hen* (The situation of the bicycle industry in Osaka – Distribution) (Osaka, 1954); Tokyo Chamber of Commerce and Industry, *Saikin ni okeru jitensha kōgyō no hatten*; Isobe, "Waga kuni jitensha sangyō no kōzō bunseki (3)," pp. 53–73.

Chapter 5

1. Although Miyata Eisuke's and Okamoto Matsuzo's bicycle factories are included as examples of integrated production in many reports, they should not be seen in the same light, because of their heavy dependence on imported parts. What may be significant about them is the gradual increase they achieved in the proportion of self-supplied components.
2. This major enterprise did not survive long enough to benefit by the war boom that came into full swing only a few months later.
3. In Europe, gold was traditionally considered the metal of the nobility, and iron,

the metal of the common people. However, in Japan, poor as it is in natural resources, both gold and iron were beyond the reach of commoners. Partly for this reason, substitute machines devised by traditional craftsmen or immediate producers in the relevant Japanese industries were mostly made of wooden components, except where the use of metal was indispensable. For some kinds of machine, even gears were made of very hard wood.

4. Nihon Boeki Kenkyusho, *Yushutsu burashi kōgyō* (Export brush industry) (Osaka, Daido Shoin, 1942) 1:47.
5. Kajinishi Mitsuha et al., *Kōza chūshō kigyō* (Lectures on small- and medium-scale industries), vol. 1 (Tokyo, Yuhikaku, 1960); Komiyama Takuji, *Nihon chūshō kōgyō kenkyū* (Research on Japan's small industries) (Tokyo, Chuo Koron Sha, 1941); Naramoto Tatsuya, *Kinsei tōjiki gyō no seiritsu* (Formation of the modern ceramic industry) (Tokyo, Iwanami Shoten, 1953).
6. Machinery manufacturing and metal processing in Japan had not grown significantly before World War II; consequently, the creation of additional demand by the war was often welcome by the producers. They were obliged to follow an abnormal path of growth by their dependence on the militaristic national policy, even though they had not really taken root in the national economy. Osaka Municipal University, Economic Research Institute, *Osaka ni okeru tekkō gyō, men orimono gyō no jittai* (The situation of the iron and steel and cotton weaving industries in Osaka) (Osaka, 1953); Iida Ken'ichi et al., eds., *Gendai Nihon sangyō hattatsu shi: IV, tekkō* (History of the development of modern Japanese industries: IV, iron and steel) (Tokyo, Kojunsha Shuppan Kyoku, 1969).
7. The complexity of the physical distribution process in Japan is counted among the barriers to direct participation by foreign businesses in the Japanese market. This barrier seems due to the overlapping of networks for the transactions of diverse commodities, accompanying industrialization, with the traditional marketing mechanisms.
8. V. I. Lenin, *Roshia ni okeru shihon shugi no hatten* (The development of capitalism in Russia), vol. 2 of *Rēnin zenshū* (The complete works of Lenin), ed. Soejima Tanenori (Tokyo, Otsuki Shoten, 1976).
9. Their diligence may be explained by the tradition of labour-intensive farm management inherited from the feudal age in Japan. The hard work of Japanese workers in general seems closely related to the fact that most of them come from rural villages rather than from urban areas.
10. A similar trend is observed even in today's production of integrated circuits. Big manufacturers can accelerate the depreciation of their equipment by operating the factories 24 hours a day, with their work-forces kept on duty in shifts. While they can sell the amortized equipment to their subcontractors and buy new machines, it is so arranged that the cheaper labour of the subcontractors can be used to continue the operation of the older machines for the production of less sophisticated goods.
11. Ruth Benedict, *Kiku to katana* (Tokyo, Shakai Shiso Kenkyujo Shuppan Kyoku, 1949), trans. *The Chrysanthemum and the Sword* (New York, Houghton Mifflin, 1989); Kida Minoru, *Kichigai buraku shūyūki* (Travelogue of a mad village) (Tokyo, Azuma Shobo, 1948).
12. Bank of Japan, *Kin'yū shi shiryō* (Reference materials on the history of finance), section on the Meiji and Taisho periods, vol. 24 (Tokyo, 1960).
13. Interestingly, those who most enthusiastically embrace this maxim even today are of Japan's current business leadership.

14. It was in the 1950s that this tendency began to be reversed.
15. Private companies in Japan often publish many copies of their histories several decades after their founding and distribute them to their business contacts and other interested parties. As to which anniversary they usually do so, it depends on the earning performance of the particular company and the prevailing tone of economic activities in general.
16. Business leaders of the first and second types were able to force the unions to split or incorporated them into the substructure of the company's personnel management mechanism. Another example of the third type, however, is Honda Soichiro of Honda Motor Company.
17. Matsushita Konosuke, *Watakushi no ikikata, kangaekata* (My way of life and thinking) (Tokyo, Ishokuju Shuppan, 1954), p. 19.
18. Oral accounts by Hashimoto Hirobumi and Otsu Ikujiro, former dealers in bicycle goods in and around Osaka; interviewed by author during 1977-1979.
19. Tokyo Prefectural Office, Education Department, Social Affairs Section, *Shokugyō chōsa* (Survey on occupations) (Tokyo, 1934) 3:125.
20. An oral account by Nakatani Torazo, bicycle parts merchant before World War II; interviewed by author in 1977, 1978.
21. Tokyo Prefectural Office, *Shokugyō chōsa*, pp. 127, 128.
22. Osaka Mekikikogyo Kumiai, *Kumiai 50-nen shi* (50-year history of the Osaka Association of Gilders) (Osaka, 1967).
23. Miyata Seisakusho 70-nen Shi Hensan Iinkai, *Miyata Seisakusho 70-nen shi* (70-year history of Miyata Seisakusho) (Tokyo, Miyata Seisakusho, 1959).
24. *Ibid.*, pp. 38, 39.
25. Takahashi Kamekichi, *Gendai chūshō shōkōgyō ron* (Analysis of modern small- and medium-scale industries) (Tokyo, Chikura Shobo, 1936).
26. The machine industries in particular required the presence of intermediate sectors for the processing of metal materials. This need was typical of industries in which there was a great distance between the upstream and downstream subsectors.
27. In times of prosperity, of course, small producers became independent for more positive motivations. Thus, depending on the tone of the market, the same phenomenon could take completely reverse forms, reflecting the complexity of the social position in which immediate producers found themselves.
28. It has to be noted, however, that in the machine industry of some regions, subcontractors had little development potential and only the manufacturers of finished goods emerged; consequently, the whole industry eventually became stagnant and was affected by the inflow of less expensive and better products from elsewhere. Keizai Antei Hombu Shigen Chosakai, *Niihama kōgyō chitai chōsa hōkokusho* (Survey report of Niihama industrial zone) (Tokyo, 1962); Fukuoka Prefectural Office, Fukuoka International Trade and Industry Bureau, *Nogata-shi tetsu kōgyō sōgō shindansho* (Comprehensive evaluation of the iron industry in Nogata City) (Fukuoka, 1960).
29. Japan was no exception in following a policy to hastily attempt industrialization before there were reasonable prospects for the development of diverse sectors of industry in the downstream region and of intermediate goods producing sectors of different scales. The Japanese experience reconfirmed that forcible political actions, based on no specific and detailed knowledge of industrial structure, prove very expensive.
30. When thinking about technology, we place less emphasis on the transfer of technology than on how the recipient of the transfer is trying to change its social

- system and quality of manpower induced by that transfer. This aspect is touched on in Takeshi Hayashi, *The Japanese Experience in Technology: From Transfer to Self-Reliance* (Tokyo, United Nations University Press, 1990).
31. Japanese technology is often criticized for its relative lack of development in basic principles or creative ideas concerning whole systems. This criticism, however, confuses the problem of the areas in which Japan had to concentrate its efforts to catch up with advanced nations with the question of the textbook classification of areas in a modern technological system.
 32. These industries could be competitive in the international market and play an important part in earning foreign exchange precisely because they were labour-intensive. I have already pointed out in various industries that the conversion of transferred technologies into labour-intensive technologies produced unique linkages between the traditional technologies and transferred technologies.
 33. More typical cases can be found in agriculture; see, for example, S. Ishikawa, *Labour Absorption in Asian Agriculture* (Singapore, ILO-ARTEP, 1978). This fact is important in considering the characteristics of agricultural development in Japan.
 34. The level of social mobility has fallen off in Japan along with its economic growth. This point seems highly relevant in predicting the future of the Japanese economy.
 35. W. W. Lockwood, *The Economic Development of Japan* (London, Oxford University Press, 1955), chap. 10.
 36. Few analyses of the kind I have attempted have been made of the situations of developing nations. This nevertheless does not mean that such research is totally impossible. Some of the possibilities in which comparative study can be fruitfully done in the future are suggested in Hirashima S., *Local Industries and Rural Agriculture* (Tokyo, I.D.E., 1980) and D. A. Kahn, Hirashima S., and Takeuchi J., *Small and Medium-scale Industries and Their Linkages with Rural Areas in Pakistan* (Tokyo, I.D.E., 1980).
 37. Toyoda Toshio, ed., *Waga kuni ririku-ki no jitsugyō kyōiku* (Vocational education in Japan during the takeoff period) (Tokyo, United Nations University Press, 1982), and idem, *Waga kuni sangyōka to jitsugyō kyōiku* (Japanese industrialization and vocational education) (Tokyo, United Nations University Press, 1984).
 38. See, for example, Lockwood, *Economic Development of Japan*. Unfortunately, most of the studies on the problems and history of Japanese agriculture are written in Japanese and scarcely known in the rest of the world.
 39. For more on this, refer to my "Kaisō kōsei" (Class stratification), in *The Society of Socio-economic History*, ed., *1930 nendai no Nihon keizai* (The Japanese economy in the 1930s) (Tokyo, University of Tokyo Press, 1982).